



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,991	11/16/2001	Daniel C. Baker	PHA 51232A (VLSI.273DIV1)	4299
24738	7590	02/17/2004	EXAMINER	
PHILIPS ELECTRONICS NORTH AMERICA CORPORATION INTELLECTUAL PROPERTY & STANDARDS 1109 MCKAY DRIVE, M/S-41SJ SAN JOSE, CA 95131			Koch, George R	
		ART UNIT	PAPER NUMBER	
		1734		

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/990,991	BAKER, DANIEL C. 
	Examiner	Art Unit
	George R. Koch III	1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 November 2003.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US Patent 6,278,809 B1) and Pollak et al (US 5,270,797)

As to claims 1 and 2, Johnson discloses means for illuminating the substrate (items 28), in the form of two light sources, two state means for adjusting the illuminating by turning item 28 on and off and means for controlling the dispensing of material as a function of the signals resulting from the illumination (See Figure 2 for entire system) in the form of a controller coupled to the light source. Johnson does not disclose using a plurality of illumination intensities, or controllers for adjusting the illumination intensities.

Pollak discloses using a plurality of illumination intensities (see item 18), and controllers for adjusting the illumination intensities (items 21). Pollak discloses that such structures allow for achievement of a "normalization" of the intensity value which

improves detection functioning. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized multiple intensities and control structures associated therewith in order to improve detection functioning.

4. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson and Pollak as applied to claims 1 and 2 above, and further in view of Sanada (US Patent 5,985,357).

Johnson uses a fiber optic line, but does not disclose if the sensor (item 32) at the end of the fiber optic line is a photodiode. Johnson merely describes the sensor functioning as being any known spectrometry or interferometry system.

Sanada discloses a known interferometry system utilizing a photodiode (6c, see column 6, lines 39-42) for illuminating the substrate much as in Johnson. Sanada discloses that the photodiode system in conjunction with a photoresist deposition method (see column 6, lines 42-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a photodiode as the sensor in Johnson in order to provide functioning during the monitoring of a photoresist or other semiconductor surface deposition method.

As to claims 3 and 5, the use of non-reflective walls for the chamber and other elements is well known and conventional in photoresist applications. Photoresist by definition reacts to light, usually by hardening, and non-reflective coatings on the chamber would reduce the amount of light impinging the photoresist during the photoresist application step, which occurs prior to the photoresist hardening step.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to ensure that only the minimum amount of light needed for sensory operations strikes the photoresist, to reduce hardening by making the interior of the chamber nonreflective.

As to claim 7, Johnson and Pollak as applied to claims 1 and 2 above make obvious the combination of the light source, the dispenser and controller as claimed. Johnson and Pollak, however, do not disclose a first detector that can detect initial contact of the material with the substrate.

Sanada discloses a sensor (item 40) which is capable of monitoring the initial contact of the dispensed liquid. One in the art would appreciate that such a sensor would allow overall visual inspection of the substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a sensor in order to improve dispensing control.

As to claim 8, Johnson and Pollak both disclose intensity sensors (item 32 for Johnson, item 56 for Pollak).

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.
6. With regard to the petition under 37 CFR 1.131, it is noted that Johnson was filed on May 30<sup>th</sup>, 1997, and that the applicant has only sworn back to October 6<sup>th</sup>, 1999.

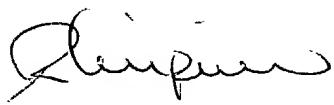
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
George R. Koch III  
February 9<sup>th</sup>, 2004

  
RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700